

Table D.1 Medicines that are substrates for, or inhibitors or inducers of, the cytochrome P450 super-family of enzymes¹⁻³

Cytochrome P450	Substrates	Inhibitors	Inducers
CYP1A2	amitriptyline, caffeine, clomipramine, clozapine, diazepam, flutamide, fluvoxamine, haloperidol, imipramine, mexiletine, mirtazapine, naproxen, oestradiol, olanzapine, ondansetron, paracetamol, phenobarbitone, propranolol, ropinirole, tacrine, tamoxifen, theophylline, terbinafine, verapamil, <i>R</i> -warfarin, zolmitriptan	amiodarone, anastrozole, cimetidine, ciprofloxacin, clarithromycin, erythromycin, fluvoxamine, grapefruit juice, isoniazid, methoxsalen, mexiletine, paroxetine, propranolol, quinolone antibiotics (ciprofloxacin, norfloxacin), tacrine, ticlopidine	carbamazepine, cruciferous vegetables (e.g. broccoli, brussels sprouts), lansoprazole, omeprazole, phenobarbitone, phenytoin, polycyclic aromatic hydrocarbons (e.g. meat cooked over charcoal, tobacco smoking), primidone, rifampicin, ritonavir, St John's wort
CYP2C9	amitriptyline, carvedilol, celecoxib, desogestrel, diclofenac, fluoxetine, fluvastatin, glibenclamide, glimepiride, glipizide, ibuprofen, imipramine, indomethacin, irbesartan, losartan, meloxicam, montelukast, naproxen, phenytoin, piroxicam, rosiglitazone, rosuvastatin, tamoxifen, terbinafine, tetrahydrocannabinol, tolbutamide, voriconazole, <i>S</i> -warfarin, zafirlukast	amiodarone, chloramphenicol, cimetidine, clopidogrel, diclofenac, fenofibrate, fluconazole, fluorouracil, fluoxetine, imatinib, isoniazid, omeprazole, sertraline, sitaxentan, sulfamethoxazole, trimethoprim, voriconazole, zafirlukast	aprepitant, bosentan, carbamazepine, phenobarbitone, phenytoin, rifampicin, St John's wort
CYP2C19	amitriptyline, citalopram, clomipramine, cyclophosphamide, diazepam, escitalopram, esomeprazole, imipramine, indomethacin, lansoprazole, moclobemide, nelfinavir, nilutamide, omeprazole, pantoprazole, pentamidine, phenobarbitone, phenytoin, primidone, propranolol, rabeprazole, terbinafine, topiramate, <i>R</i> -warfarin	cimetidine, fluoxetine, fluvoxamine, indomethacin, isoniazid, ketoconazole, letrozole, modafinil, omeprazole, oxcarbazepine, probenecid, sertraline, ticlopidine, topiramate, tranlycypromine, voriconazole	carbamazepine, phenobarbitone, phenytoin, prednisone, rifampicin
CYP2D6	amitriptyline, aripiprazole, atomoxetine, carvedilol, chlorpromazine, citalopram, clomipramine, clozapine, codeine, dextromethorphan, dolasetron, donepezil, doxepin, escitalopram, flecainide, fluoxetine, fluphenazine, galantamine, haloperidol, halocodone, imipramine, labetalol, methadone, metoclopramide, metoprolol, mexiletine, mianserin, mirtazapine, morphine, nortriptyline, olanzapine, ondansetron, oxprenolol, oxycodone, paroxetine, perhexiline, pethidine, procainamide, promethazine, propranolol, quetiapine, risperidone, tamoxifen, thioridazine, timolol, tramadol, trimipramine, venlafaxine	amiodarone, bupropion, celecoxib, chloroquine, cimetidine, clomipramine, diphenhydramine, escitalopram, haloperidol, methadone, metoclopramide, moclobemide, quinidine, ritonavir, selective serotonin reuptake inhibitors (all SSRIs inhibit 2D6, with fluoxetine and paroxetine the most potent), terbinafine, thioridazine, yohimbine	carbamazepine, dexmethasone, phenobarbitone, phenytoin, rifampicin, ritonavir
CYP2E1	dapsone, enflurane, ethanol, halothane, isoflurane, methoxyflurane, paracetamol, sevoflurane, theophylline	cimetidine, disulfiram	ethanol, isoniazid
CYP3A4	alfentanil, alprazolam, amiodarone, amitriptyline, amlodipine, aprepitant, aripiprazole, atazanavir, atorvastatin, bosentan, bromocriptine, budesonide, buprenorphine, busulfan, carbamazepine, citalopram, clarithromycin, clindamycin, clomipramine, clonazepam, cocaine, cyclophosphamide, cyclosporin, dapsone, dexmethasone, dextromethorphan, diazepam, diltiazem, donepezil, doxorubicin, eplerenone, ergot alkaloids, escitalopram, everolimus, erythromycin, esomeprazole, ethinylloestradiol, ethosuximide, etoposide, felodipine, fentanyl, fexofenadine, finasteride, flutamide, galantamine, haloperidol, hydrocortisone, ifosfamide, imatinib, imipramine, indinavir, irinotecan, itraconazole, ivabradine, ketoconazole, lansoprazole, lapatinib, lercanidipine, lignocaine, lopinavir, loratadine, losartan, methadone, miconazole, midazolam, mirtazapine, montelukast, nelfinavir, nevirapine, nifedipine, nimodipine, oestradiol, omeprazole, ondansetron, paclitaxel, pioglitazone, quetiapine, quinidine, reboxetine, repaglinide, ritonavir, saquinavir, sertraline, sibutramine, sildenafil, simvastatin, sirolimus, sodium valproate, sunitinib, tacrolimus, tadalafil, tamoxifen, teniposide, tetrahydrocannabinol, theophylline, tiagabine, tolterodine, tramadol, trazodone, triazolam, vardenafil, venlafaxine, verapamil, vinblastine, vincristine, voriconazole, <i>R</i> -warfarin, zolpidem	amiodarone, aprepitant, cannabinoids, cimetidine, ciprofloxacin, clarithromycin, delavirdine, diltiazem, efavirenz, erythromycin, fluconazole, fluoxetine (due to norfluoxetine metabolite), fluvoxamine, grapefruit juice, imatinib, indinavir, itraconazole, ketoconazole, metronidazole, miconazole, protease inhibitors (all inhibit 3A4, with ritonavir the most potent), verapamil	aprepitant, bosentan, carbamazepine, dexmethasone, ethosuximide, efavirenz, glucocorticoids, griseofulvin, modafinil, nevirapine, phenobarbitone, phenytoin, primidone, rifabutin, rifampicin, St John's wort